

The PMS Symptom between Anaemic and Non Anaemic Group

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Abstract

Original Research Article

Objectives: In this study our main aim is identify the PMS symptom between anaemic and non anaemic group. **Methods:** This cross-sectional observational study was done in the department of Physiology, Chittagong Medical College, over one-year period from February 2017 to January 2018. Total 90 subjects between 18-22 years were selected by purposive sampling according to inclusion and exclusion criteria from the 1st year female medical students. They were divided in anaemic (Group A) and non anaemic (Group B) on the basis of haemoglobin concentration. **Result:** mean (\pm SD) PMS score of the subjects were 7.59 ± 3.6 and 7.08 ± 2.9 in group A and group B respectively. 68% patients had mild anxiety in group-A, where as in group-B it was 77.5%. Also, 34.1% had mild headache in group-A where as in group-B it was 30.6%. **Conclusion:** From our study we can conclude that, anaemic subjects had more severe symptoms of PMS than non anaemic but the severity was not statistically significant. Symptoms may be compared with other disorders those mimic PMS.

Keyword: Anaemia, PMS, Haemoglobin.

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INTRODUCTION

Premenstrual syndrome (PMS) is a common clinical and psychological problem in adolescent girls. It reduces quality of life of a girl. The severity varies in different subjects. Medical students have increased risk of developing different symptoms for their stressful lifestyle.

There is different etiology of PMS. Postpartum psychosis, lactational failure of mothers and emotional impairment, cognitive skill, language impairment of children are some complications of PMS. Anaemia is a common problem in the adolescent girls in our country [1-3].

There are some common symptoms between anaemia and PMS. Anaemia can increase severity of symptoms of PMS. So haemoglobin percentage can be checked in PMS subjects. We know that iron deficiency is the most common cause to develop microcytic anaemia in our country. It can be corrected simply by iron supplementation. No drug therapy is completely effective to treat PMS. Correction of anaemia may be an easy and important option to treat PMS in early age. Complication of PMS can be prevented simply by earlier supplementation of haematinics and correction

of anaemia as was suggested in some studies. This study is aimed to see the presence of anaemia and its relationship with PMS in female medical students. Planning may be taken to eradicate the symptoms for betterment of young girls in reproductive life [4,5]. In this study our main goal is to identify the PMS symptom between anaemic and non anaemic group.

OBJECTIVE

General objective

- To identify the PMS symptom between anaemic and non anaemic group.

Specific objective

- To detect PMS score of the patients
- To identify correlation between PMS score and haemoglobin among patients.

METHODOLOGY

Study type

- It was a cross sectional observational study.

Place and period of the study

- This study was carried out in the Department of Physiology, Chittagong Medical College from

February 2017 to January 2018.

Inclusion criteria

- Subjects with symptoms of PMS (Physical and Emotional)
- Age range in between 18-22yrs

Study population

- Total sample size 90
- Subjects were divided into two groups: Group A and Group B.

Group A (Anaemic group): Included 41 subjects having PMS symptoms with anaemia

Group B (Non anaemic group): Included 49 subjects having PMS symptoms without anaemia

Sample method

- All subjects were selected purposively on the basis of emotional and physical symptoms mimicking PMS for at least 3 consecutive months during time period 8.00am - 2.30pm daily during class hours.

DATA ANALYSIS

- Data were processed and analyzed using computer based software SPSS (Statistical Package for Social Sciences) for windows version 22. Unpaired t-test was used to compare quantitative variables. Pearson’s correlation was done to see the relationship between anaemia and PMS, BMI and PMS. Variables were expressed as range and mean ± SD. p value < 0.05 were taken significant.

RESULTS

In table-1 shows age distribution of the patients where no statistically significant differences

were observed between two groups and both the groups were matched for age. The following table is given below in detail:

Table-1: Age distribution of the patients

Variable	Group A (n=41)	Group B (n=49)
Age (years)	19.59 ± 0.7 (18 - 21)	19.53 ± 0.7 (18 - 21)

In figure-1 shows PMS score of the patients where mean (±SD) PMS score of the subjects were 7.59 ± 3.6 and 7.08 ± 2.9 in group A and group B respectively. No statistically significant difference was observed between two groups. But mean PMS score was higher in group A (anaemic group) than in group B (non anaemic group). The following figure is given below in detail:

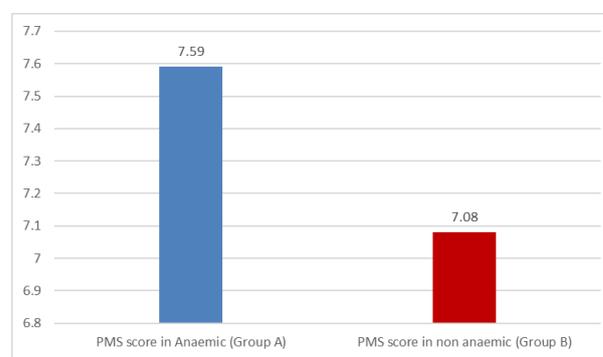


Fig-1: PMS score of the patients

In table-2 shows distribution of emotional symptom between two groups where 68% patients had mild anxiety in group-A, where as in group-B it was 77.5%. The following table is given below in detail:

Table-2: Distribution of emotional symptom between two groups

Emotional symptoms of PMS	Group-A				Group-B			
	No Symptoms %	Mild Symptoms %	Moderate Symptoms %	Severe Symptoms %	No Symptoms %	Mild symptoms %	Moderate symptoms %	Severe symptoms %
Anxiety	17.0%	68.0%	14.6%	0%	16.3%	77.5%	6.1%	0%
Irritability	12.1%	58.5%	24.3%	4.8%	12.2%	67.3%	20.4%	0%
Depression	26.8%	43.9%	29.2%	0%	22.4%	48.9%	28.5%	0%
Confusion	51.2%	34.1%	12.1%	2.4%	55.1%	38.7%	6.1%	0%
Mood swing	17.0%	36.5%	43.9%	2.4%	10.2%	61.2%	28.5%	0%

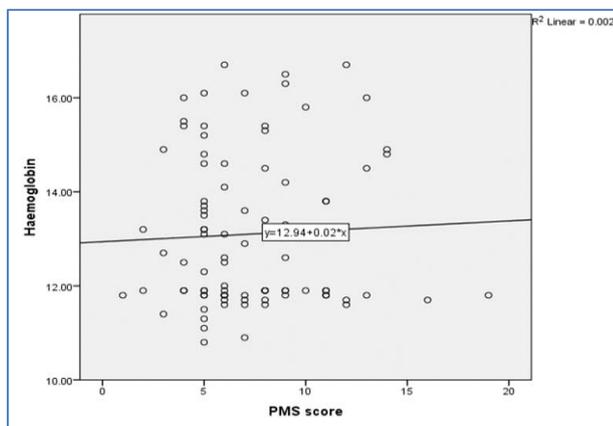
In table-3 shows distribution of physical symptoms between two groups, where 34.1% had mild

headache in group-A where as in group-B it was 30.6%. The following table is given below in detail:

Table-3: Distribution of physical symptoms between two groups

Physical symptoms of PMS	Group-A				Group-B			
	No Symptoms %	Mild Symptoms %	Moderate Symptoms %	Severe Symptoms %	No Symptoms %	Mild Symptoms %	Moderate Symptoms %	Severe Symptoms %
Fluid retention	41.0%	0%	0%	0%	95.9%	4.0%	0%	0%
Headache	51.2%	34.1%	9.7%	4.8%	53.0%	30.6%	14.2%	2.0%
Mastalgia	78.0%	19.5%	2.4%	0%	75.5%	20.4%	4.0%	0%
Abdominal bloating	53.6%	31.7%	14.6%	0%	40.8%	48.9%	8.1%	2.0%
Joint pain	46.3%	24.3%	26.8%	2.4%	51.0%	32.6%	16.3%	0%

In figure-2 shows correlation between PMS score and hemoglobin in patients where correlation analysis PMS score showed very weak positive correlation with hemoglobin. The following figure is given below in detail:

**Fig-2: Correlation between PMS score and hemoglobin in patients**

DISCUSSION

Young girls suffer from different symptoms throughout the menstruation [4]. It was observed that the severity of these symptoms is more prominent in anaemic girls during the luteal phase [4, 5]. Whereas symptoms are prominent in non anaemic girls during the rest of the cycle [4].

In the world, about 20-40% women are affected by PMS [11]. In western countries it affects about 14-30% of women [4]. In USA about 19%-30% of women suffer from different PMS symptoms [42]. About 80% women of reproductive age suffer from different symptoms of PMS [2].

In both retrospective and prospective studies high prevalence of PMS with different symptoms was observed [12]. Irritability, tension and dysphoria are the most prominent three though there are more than 200 symptoms [4]. Dysmenorrhea was also observed in PMS subjects in some studies [5, 6].

PMS may be associated with physical, psychological and behavioral changes [10]. The degree and type of symptoms differ from one to another [1].

Different studies stated significant PMS symptoms in the students of high school, university, nursing, medical colleges and of different age groups in different countries [13, 14].

Due to less sleep, irregular food and exercise habits, medical students are a high risk group to develop menstrual abnormalities [3]. They are more conscious about the presence of different symptoms of PMS [15].

PMS may disrupt a woman's life significantly. 60% girls were found to be affected due to disturbed sleep, decreased appetite along with reduced health related quality of life (HRQOL) [4, 5].

PMS was found to be closely related to anaemia [4]. Correlation between anaemia and PMS has already been established in some previous studies [4, 6].

A recent study showed that anaemia is significantly related to depression and fatigue which are predictors of postpartum depression (PPD) [2]. Another study showed no significant association between anaemia and depression [4]. Some previous studies showed significant relation of emotional PMS with PPD [6,7] About 15% mothers were found to suffer from PPD [16].

Low haemoglobin status during the luteal phase was supposed to be responsible for various PMS symptoms in a study done over 50 young female MBBS students in India [3]. But one study reported that, there was no significant difference regarding the haemoglobin level between follicular and luteal phase. An alteration of peripheral circulation might be associated with PMS symptoms as suggested in that study [8].

Higher haemoglobin (Hb) level in the luteal phase of menstrual cycle was also observed by some investigators [9]. It was supposed due to increased haematopoiesis by the influence of estrogen and progesterone to compensate menstrual blood loss. It was contradictory to the result of another study which showed same Hb level in both follicular and luteal phase of menstrual cycle [3].

CONCLUSION

From our study we can conclude that, anaemic subjects had more severe symptoms of PMS than non anaemic but the severity was not statistically significant. Symptoms may be compared with other disorders those mimic PMS.

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